Neonicotinoids
Proposed Interim Decisions

This effort reflects collaboration between BEAD, EFED, HED and PRD, and chemical teams for all 4 neonics from each division.
The interdivisional team met regularly to discuss assessment progress, methods and make sure that the assessments addressed PRD's needs.
The assessments conducted by EFED and BEAD were highly refined.

Outline

- Background
- Assessments
  - Ecological
  - Human Health
  - Benefits
- Risk Management
  - Ecological
  - Human Health
- Next Steps

Background

- Nitroguanidine-substituted neonicotinoids (imidacloprid, clothianidin, thiamethoxam, and dinotefuran) are contact and systemic insecticides
  - Registered for foliar (ground and air), soil, seed, and tree injection application to a wide variety of crops.
  - Non-agricultural uses include turf, ornamentals, flea treatment for pets, wood preservative, poultry house, and other residential and commercial indoor/outdoor uses.
- Most pounds applied as seed treatment for corn and soybean
- Registered after 1986, so not subject to Reregistration Eligibility Decisions (REDs)
- Registration Review docket opened in 2010 (imidacloprid), and 2011 (clothianidin, thiamethoxam, and dinotefuran)
- Data Call-In's (DCIs) issued for registration review in 2012 (imidacloprid) & 2013 (clothianidin, thiamethoxam, and dinotefuran)
  - Required higher tiered pollinator (bee) testing for toxicity and residues (imidacloprid – full field studies)
- Preliminary bee risk assessments conducted for all four nitroguanidine neonicotinoids
  - Bee assessments were conducted ahead of other risk assessments (*i.e.,* human health, ecological non-bee)
  - Final non-bee ecological risk assessments and human health risk assessments published in December 2017

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Use and Usage Information

- Registered for a wide variety of agricultural and non-agricultural use patterns
- Applied as seed treatment, soil, or foliar, or as combination of methods
- Max annual rates up to **0.4** (clothianidin), **0.27** (thiamethoxam), **0.54** (dinotefuran), and **0.5** (imidacloprid) lbs a.i/A

Chemical	Estimated annual usage (lbs/year)	Major uses (lbs/year)
Clothianidin	1,500,000	**Corn** (seed treatment; 1,400,000)
Imidacloprid	1,120,000	**Soybean** (seed treatment, 430,000) **Cotton, Potato, Wheat** (all app. methods, 100,000 ea.)
Thiamethoxam	919,000	**Corn** (seed treatment; 300,000) **Cotton** (foliar, soil, seed; 160,000) **Soybean** (seed treatment; 300,000)
Dinotefuran	22,500	**Cantaloupes** (5,000) **Rice** (4,000)

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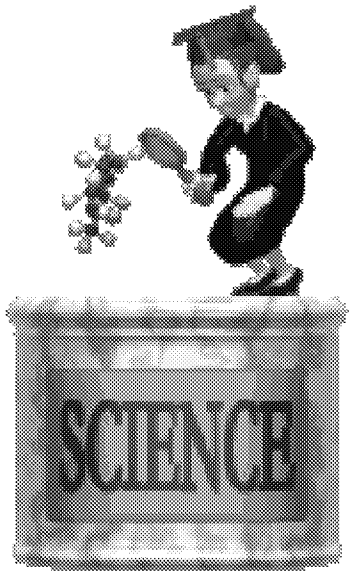
Ecological Risk Assessments



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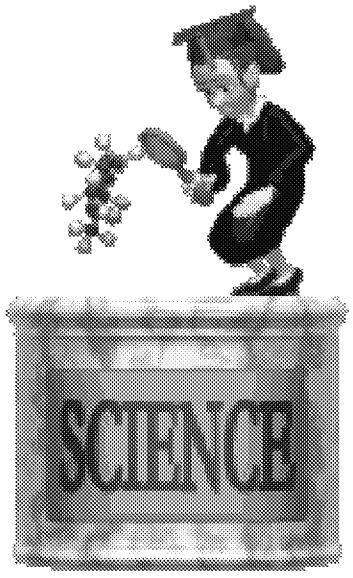
Human Health Risk Assessments



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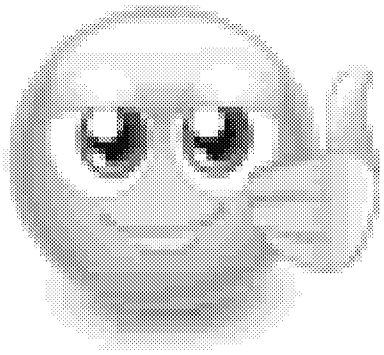
Benefits Assessments



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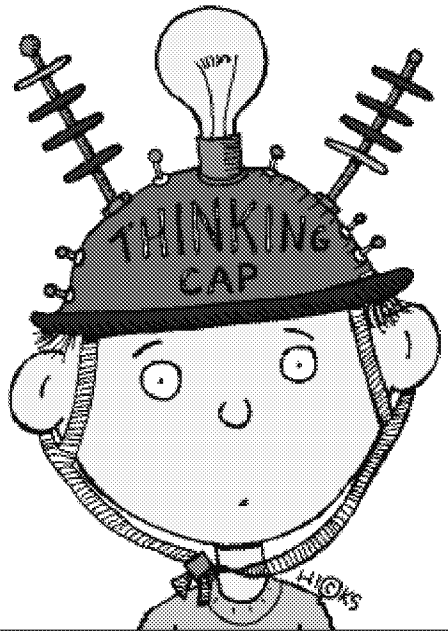
Risk Management Proposal



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APPENDIX

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